Introduction

In working to support K–12 school systems throughout the country, we have observed that a lot of educators, particularly at the secondary school level, are uncertain about the relationships among different student-centered learning practices. In particular, educators are curious about the relationships among—and the connections between—practices such as

- formative assessment,
- deeper learning,\(^1\)
- culturally responsive and sustaining education, and
- personalized learning.

As we have supported districts and schools to grapple with how each of these approaches supports self-directed student learning, consistent questions and themes have surfaced. This paper attempts to serve as a resource for school communities that are introducing or considering integrating different types of student-centered learning practices in a way that honors the capacities and strengths of each approach and recognizes that multiple approaches may benefit students.

\(^1\) The term “deeper learning” has gained traction in the past decade to describe learning in which students apply complex content knowledge to new contexts and challenges. This term was popularized through school improvement efforts such as the William & Flora Hewlett Foundation’s Deeper Learning Initiative.

If your school community has grappled with integrating and drawing connections across different student-centered learning approaches, this resource may help your community consider the kinds of questions that we have heard educators raise, such as the following:

- How do different secondary learning approaches conceptualize learner identity? What can be pulled from different models to strengthen how the school makes student identities central to the school’s vision?
- What is the role of student choice in each of these models? What can be gleaned from the models to understand the underlying skills students need to effectively engage in learning that promotes choice?
- In each of these models, how do students use evidence themselves? What has to shift in the school’s learning and assessment practices to strengthen students’ use of evidence to guide and take ownership of their learning?
- What can teachers learn from the different models to better understand how to effectively integrate these models? What is the starting point? How can each teacher support all students to understand how the student role changes to take that ownership?
Each of the student-centered learning approaches explored in this resource has value and, when combined, they require integrated strategies for them to work best for students, teachers, and leaders.

Formative assessment, deeper learning, culturally responsive and sustaining education, and personalized learning are complementary approaches to enabling young people to be self-directed, empowered learners. Though often seen as competing approaches that may seem to be based on very different models of instruction and student learning, a closer look reveals many commonalities among the goals and ideals inherent in each approach.

The four approaches of engaging in formative assessment, deeper learning, culturally responsive and sustaining education, and personalized learning share a common aspirational commitment—to provide student learning experiences rooted in developing identity, prioritizing learner agency, educating for equity, and honoring and activating community assets.

This resource offers educators a framework for understanding a set of coherent, student-centered practices that value students’ cultural and racial identities as learning assets in the development of agency and one’s own identity as a learner.

When instructional practices from two or more of these approaches are intentionally implemented together, they can help strengthen student engagement and provide culturally and socially rich, relevant, and deep learning for each student. Understanding each approach can help principals and other school leaders in creating a vision for instruction that utilizes practices and strategies shared across all four approaches. Though these instructional approaches all aspire to provide learning experiences that center around identity, agency, equity, and community, none of the individual instructional approaches alone can provide the instructional structures to achieve this aspiration for students. This paper is meant to encourage educators to consider ways to strengthen their practices in simultaneously implementing formative assessment, deeper learning, culturally responsive and sustaining education, and personalized learning to address this gap between aspiration and reality—to make the commitment to identity, agency, equity, and community a reality.

A Snapshot of Key Concepts

All four approaches support student and teacher roles that enable young people to be self-directed, empowered learners. Each is rooted in learning science and the understanding that engaging students in thinking about how they understand their learning themselves (metacognition) can help students be more efficient and effective in their learning, leading to improved outcomes (Stanton et al., 2021). Cognitive science and learning research provide a foundation for reimagining the student role as one of a knowledgeable member of the learning community so that all content does not have to come from, or go through, the teacher. These approaches all strive for student learning to be rigorous, relevant, and aligned to appropriate content standards. Each approach requires teachers to move away from a traditional teacher-directed instructional model in order to develop multiple ways for students to learn.
The following figure provides a high-level summary of the four instructional approaches, calling out the elements that are key to each.

**Key Elements of Each Instructional Approach**

### Formative Assessment

Prioritizes learning how to learn and metacognition
- Students gain skills and practices to reflect on their current learning status.
- Daily routines and practices (e.g., student discourse, peer feedback, and self-assessment) are in place.
- Students explore evidence of learning together through daily practices.
- Students use feedback from teachers and peers to guide learning during each lesson.
- Teachers and students elicit, interpret, and use evidence of learning, during learning, to make decisions about next steps.

### Deeper Learning

Prioritizes teaching of critical thinking and problem-solving skills
- Real-world problems enable transferability across contexts.
- Collaboration and communication skills are emphasized.
- Students apply knowledge to problems in the classroom and on the job.
- Student voice and choice are included.
- Critical thinking, problem-solving, and creative thinking skills are central.
- Instructional strategies include interdisciplinary projects, work-based learning, and project-based learning.

### Culturally Responsive and Sustaining Education

Prioritizes utilizing cultural knowledge, prior experiences, and frames of reference
- Students learn to recognize, understand, and critique social inequalities.
- Educators value all racial, linguistic, and cultural identities and use them as vehicles of learning.
- Students develop positive racial, ethnic, and cultural identities.
- Students and communities are codesigners of curriculum.
- Students are empowered as agents of social change.

### Personalized Learning

Prioritizes student voice and choice and adaptive teaching and learning
- Resources, strategies, and content vary based on learning needs and preferences.
- Student choice enables students to identify learning resources and strategies to fulfill learning objectives.
- Pace and place are flexible.
- Teachers scaffold learning opportunities to guide and prompt students to progress.
- Teachers rely on multiple sources of data/information to understand progress and guide learning.

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**Understanding Each Approach**

The following sections provide brief introductions to formative assessment, deeper learning, culturally responsive and sustaining education, and personalized learning. The literature and research on each approach is extensive. To streamline these complex topics, each introduction gives a snapshot of what each approach is, why each is valuable to student learning, and how the different elements and conditions can be incorporated into teaching and learning.
Formative Assessment

**What:** Formative assessment consists of practices that provide evidence of individual and collective student learning—during instruction itself—so that both the learner and the teacher understand where the learner is in their own process of understanding. Bell and Cowie define formative assessment as “the process used by teachers and students to notice, recognize, and respond to student learning in order to enhance that learning, during the learning” (Bell & Cowie, 2001). In formative assessment practice, learning how to learn—learning how to become aware of and act on one’s thinking (metacognition) and evaluate one’s skills and performance to guide learning (self-regulation)—takes place during and through academic learning. Students learn how to consider evidence of their own learning to determine where they are in their learning and eventually understand how they are learning (metacognitive practice). Teachers explicitly teach students how to elicit, interpret, and use evidence of learning—during learning—then do this in partnership with students so that they ultimately learn to do so with peers and independently. The evidence lets teachers adapt their instruction on an ongoing basis to continuously meet the learning needs of their students.

**Why:** Students develop a set of skills and practices for self-reflection and use metacognition to understand evidence of their own learning. Students learn how to use evidence to discern the status of their own learning. Teachers work with students to build a shared conception of what learning looks like and teach the academic skills of listening, observing, and analyzing. During learning, students make sense of the daily evidence they can glean from their own developed skills: listening, observing, discussing, and analyzing. When students can say, “This is where I am in my learning, this is how I know, and these are next steps I can take,” it is evidence of students’ use of self-regulation to monitor and advance learning. Formative assessment provides students with the inquiry cycle to develop their learner identities and gain confidence to effectively manage their own learning. It also enables teachers to better design learning experiences that are in the students' zone of proximal development (Vygotsky, 1978) and provide feedback that supports students in moving to the next level in their learning.

**How:** To develop formative assessment practices, teachers explicitly teach daily routines and practices such as student discourse, peer feedback (Hattie & Timperley, 2007), and self-assessment to help students learn self-regulation and metacognitive skills. Teachers engage students in developing a clear sense of what learning will look like and how they will demonstrate learning when they have met the learning goal. Students and teachers share a conception of what learning will look like in each lesson through the use of success criteria, which allows them to explore ideas together about how learning is progressing toward that goal. Both teachers and students are explicit in how they elicit, interpret, and use evidence of learning—during learning. Information gleaned from metacognitive processes becomes a source of evidence in determining the status of learning. Students can accurately measure where they are in their learning and can align their own sense of where they are with feedback that teachers provide. Students can do this self-monitoring independently and/or with peers.

Formative assessment involves changes in both student and teacher roles. In a formative assessment environment, teachers recognize and build on the knowledge and experiences that students bring and focus on deepening relationships with students. Teachers learn in partnership with students, gradually shifting power to students as the students learn to accurately assess their own learning. Teachers learn to respond to student learning in real time through means such as ongoing feedback. Rather than counting on the teacher as the most knowledgeable resource, students recognize one another's knowledge and utilize that to explore, reflect, and give and receive feedback. This shift enables a learning culture in which student identities are recognized and honored, and teachers and students can take risks and are comfortable saying what they do and do not know.
Deeper Learning

What: Deeper learning is a broad term for learning experiences that build skills, dispositions, and knowledge that students need to succeed in 21st-century jobs and civic life. Central to deeper learning are the competencies that students must master “in order to develop a keen understanding of academic content and apply their knowledge to problems in the classroom and on the job” (ORSImpact, 2013). Many districts may develop their own rationales or purposes related to deeper learning. For example, in San Francisco Unified School District, deeper learning is considered “the spiraling of experiences that enable students to honor identity and community, build proficiency, and create with purpose” (San Francisco Unified School District, 2021).

Why: Deeper learning underscores student-centered instruction, which prioritizes student empowerment by keeping individual learners at the center of the learning process. Compelling, real-world content and skills in deeper learning tasks enable transferability and application of knowledge across contexts (Honig & Rainey, 2015). Deeper learning experiences strengthen these core competencies (William & Flora Hewlett Foundation, 2013):

- mastering academic content
- developing critical thinking, problem-solving, and creative thinking skills
- developing collaboration and communication skills
- employing self-directed learning
- developing adaptive academic mindsets

How: In deeper learning, students actively engage in challenges that are connected to real-life tasks that enable them to work collaboratively on issues they care about and that encourage them to seek out knowledge and skills in new ways (Mehta & Fine, 2019). This type of learning occurs when there are clear goals and expectations for what students should know and be able to do. Deeper learning can include a wide range of instructional approaches, such as project-based learning, work-based learning, inquiry-based learning, blended learning, and personalized learning. Opportunities for students to demonstrate their learning are typically summative in nature, though activities such as student-led conferences, portfolios, and capstone projects are common in deeper learning environments, as are collaborative structures such as advisories. In many deeper learning settings, assessment practices shift to become student-led and include self-assessment, student peer assessment, community assessment, and/or workplace assessment in employer-based mentorships.

Culturally Responsive and Sustaining Education

What: Culturally responsive and sustaining education is an approach that seeks to advance educational equity by creating culturally affirming and inclusive learning environments, experiences, and outcomes for each student. Culturally responsive pedagogy uses diverse cultural knowledge, experiences, frames of reference, and methods of expression to make learning engaging, relevant, and effective for students from a range of cultural backgrounds (Gay, 2010). Culturally sustaining educators not only draw on but also sustain students’ culture, which both includes “static culture” (e.g., heritage ways, home language) and recognizes that any living culture is always evolving (Paris & Samy Alim, 2017). Culturally sustaining practice “has as its explicit goal supporting multilingualism and multiculturalism in practice and perspective for students and teachers” (Paris, 2012). Collectively, these approaches are known as culturally responsive and sustaining education, or CRSE.

Why: At its heart, CRSE involves making substantive connections between students’ cultural identities and lived experiences and the content and skills that they learn in school in ways that support cultural pluralism, not cultural assimilation (Warner et al., 2021). CRSE can help students develop positive racial, ethnic, and cultural identities while simultaneously helping them achieve academically and empowering them intellectually, socially, emotionally, and politically (Ladson-Billings, 2014). Culturally responsive and sustaining environments affirm, value, and use as vehicles for teaching and learning all racial, linguistic, and cultural identities (e.g., race, ethnicity,
age, gender, sexual orientation, disability, language, religion, socioeconomic background). Through this asset-focused orientation to teaching and learning, students learn to recognize and redress bias in the system and to recognize, understand, and critique current social inequalities (Ladson-Billings, 1994). In addition, research suggests that when teachers use culturally responsive pedagogies, students are more engaged and have more agency in their learning and take more responsibility for seeking information (Glynn et al., 2010).

**How:** CRSE uses instructional techniques, materials, student–teacher relationships, classroom climate, and self-awareness as part of an asset-based approach aimed at improving learning for students. Active teaching methods, such as student-controlled discourse and small-group instruction, help develop students’ abilities to connect across lines of difference and to reflect on their own cultural lenses. Teaching and learning promote respect for student differences and elevate historically marginalized voices. An important condition for CRSE is to allow for reshaping the curriculum or delivery of services by including students as codesigners of curriculum. In doing so, CRSE draws on students’ cultures to shape curriculum and instruction and to collaborate with families and the local community. Learning that is culturally relevant and sustaining brings real-world issues into the classroom and empowers students as agents of social change and student-led civic engagement.

**Personalized Learning**

**What:** Personalized learning is a philosophy or broad orientation to learning that places the individual learner at the center of the learning process so that resources, strategies, and content are varied to meet the individual’s learning needs and preferences. Personalized learning systems and approaches deepen student learning by incorporating each student’s interests, strengths, and needs—including student voice and choice in what, how, when, and where they learn—to achieve the goals of active engagement, academic success, and preparation for postsecondary opportunities. In personalized instructional approaches, students engage in relevant material and instruction that challenge them appropriately, and students choose different learning strategies to support their own learning needs.

**Why:** Personalization enables flexible learning opportunities that allow students to meet learning goals in ways that align with their interests and needs. Content relevance and student choice are key goals of personalization. Effective personalized learning enables students to identify and utilize a range of learning resources and strategies to fulfill their learning objectives and work at their own pace, thereby increasing student motivation and engagement.

**How:** The place, pace, content, and strategies may vary, depending on student learning goals and needs. The teacher is in a facilitative role to help guide each student to appropriate content, often requiring the use of ongoing evidence and data. Teachers rely on multiple sources of data and information to help understand individual and group learning progress based on learning progressions, learning goals, and success criteria. As students develop knowledge and skills aligned to standards and learning goals, teachers scaffold learning opportunities to guide and prompt students to progress. Blended and digital learning are strategies often used for personalization approaches, particularly as ways for students to access content and topics aligned with their needs at each stage of their learning progression. However, personalized learning is technology agnostic and does not require or rely on digital resources or instruction.
**Continued Learning**

The questions listed in the introduction are meant to ground this resource and are about finding the intersection of the four practices highlighted here in order to leverage their capabilities to strengthen student-centered learning and deepen student agency. This resource is not meant to be exhaustive of all student-centered learning approaches. Rather, it is intended to spark connection and strengthen application across the different kinds of student-centered learning that educators are exploring.

As we further explore this work, we are also looking toward better understanding the synergies and benefits of multiple models and what our partners are doing to support these implementation efforts. We are continuing to learn with others to understand the following:

- What is the relationship between academic identity and students’ personal identity?
- How can practices such as personalized learning and community-based learning integrate with and/or strengthen deeper learning or assessment processes?
- What are different ways to increase individual student choice at the secondary level to strengthen student personal and academic identity?
- How can students’ use of evidence during learning strengthen student decision-making that is necessary, for example, to participate fully in a personalized learning model?
- For teachers to integrate different learning approaches, what is most important for them to be thinking about?

**References**


